



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/747,752	12/29/2003	Jung-Fu Cheng	4015-5165	6122

24112 7590 10/28/2005

COATS & BENNETT, PLLC
P O BOX 5
RALEIGH, NC 27602

EXAMINER

STEIN, JULIE E

ART UNIT	PAPER NUMBER
----------	--------------

2688

DATE MAILED: 10/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/747,752	Applicant(s) CHENG ET AL.	
	Examiner Julie E. Stein, Esq.	Art Unit 2688	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-67 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-67 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. Figures 1 and 8 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: In the Brief Description of the Drawings, Figures 1 and 8 should indicate that they show known versions of a communications network and a base station respectively.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Art Unit: 2688

2. Claims 1, 3-4, 7-10, 13-14, 21, 23-25, 28, 35-37, 40-43, 46-49, 52-53, 55-56, 58-59, 61-62, 64, and 66 are rejected under 35 U.S.C. 102(a) as being anticipated by EP 1 304 900 A2 to NEC Corp. (EP).

3. EP discloses all the steps and elements of independent claims 1, 21, and 35, including a method, wireless communications mobile terminal, and a computer readable medium comprising a computer readable program embodied therein for a wireless communication mobile terminal, of reporting channel information in a wireless communication system, comprising: a mobile terminal normally providing a basic channel report (paragraph 6), said basic channel report at least partially characterizing a downlink channel (Id.); said mobile terminal receiving at least one common feedback criterion broadcast to a plurality of mobile terminals (paragraph 61); said mobile terminal determining if said mobile terminal satisfies a condition (Id.) said mobile terminal selectively providing an enhanced channel report regarding said downlink channel based on said determining (Id.).

4. The rejection of claims 1, 21, and 35 are hereby incorporated. EP discloses all the steps and elements of independent claims 40 and 46, including a method and a wireless communications mobile terminal for reporting channel information in a wireless communication system, comprising: a mobile terminal receiving at least one common feed back criterion (paragraph 61) broadcast to a plurality of mobile terminals (Id.); said mobile terminal determining if said mobile terminal satisfies a condition based on said at least one common feedback criterion (Id.); and said mobile terminal selectively

providing a channel report regarding a downlink channel based on said determining, said channel report at least partially characterizing said downlink channel (Id.).

5. The rejections of 1, 21, 35, 40, and 46 are hereby incorporated. EP discloses all the steps and elements of independent claims 52, 58, and 64, including a method, a base station, and a computer readable medium comprising a computer readable program embodied therein for a wireless communication base station, of controlling channel information reporting in a wireless communication system, comprising: a base station (paragraphs 2 to 6) receiving a plurality of basic channel reports transmitted from a plurality of mobile terminals (Id.), said basic channel reports at least partially characterizing one or more downlink channels from said base station (Id.); determining, by said base station, at least one common feed back criterion (paragraph 61); said at least one common feedback criterion helping to define a condition whose satisfaction controls which plurality of said plurality of mobile terminals subsequently transmit an enhanced channel report regarding one or more of said downlink channels to said base station (paragraph 61); and broadcast transmitting said at least one common feedback criterion from said base station to said plurality of mobile terminals (Id.).

6. EP also discloses all the steps and elements of dependent claims 3, 42, and 48, including wherein said at least one common feedback criterion comprises at least one threshold. See paragraph 61.

7. EP also discloses all the steps and elements of dependent claims 4, 43, and 49, including wherein said at least one common feedback criterion comprises a channel quality indicator threshold. Id.

Art Unit: 2688

8. EP also discloses all the steps and elements of dependent claims 7, 23, 36, 41, and 47, including wherein said basic channel report comprises a channel quality indicator. See paragraphs 2 to 6.

9. EP also discloses all the steps and elements of dependent claims 8 and 24, including wherein normally providing a basic channel report comprises normally providing a basic channel report on a periodic basis. Id.

10. EP also discloses all the steps of dependent claim 9, including wherein said mobile terminal selectively providing an enhanced channel report based on said determining comprises said mobile terminal selectively providing, on a periodic basis, either said basic channel report or said enhanced channel report based on said determining. See paragraph 66.

11. EP also discloses all the steps and elements of dependent claims 10, 25, and 37, including wherein said basic channel report comprises information related to a first set of one or more channel parameters of said downlink channel, and wherein said enhanced channel report comprises further information on said first set of channel parameters. See paragraphs 2 to 6 and 61.

12. EP also discloses all the steps of dependent claim 13, including wherein said basic channel report comprises a channel quality indicator; and wherein said mobile terminal selectively providing an enhanced channel report based on said determining comprises said mobile terminal selectively providing either said basic channel report or said enhanced channel report based on said determining. See paragraphs 2 to 6 and 61.

13. EP also discloses all the steps and elements of dependent claims 14 and 28, including providing an explicit indication of the presence of said enhanced channel report when said enhanced channel report is provided. See paragraph 69.

14. EP also discloses all the steps and elements of dependent claims 53 and 59, including wherein determining at least one common feedback criterion comprises determining at least one common feedback criterion based on at least a desired amount of enhanced channel reports. See paragraphs 64 to 65.

15. EP also discloses all the steps and elements of dependent claims 55, 61, and 66, including wherein determining at least one common feedback criterion based on a desired amount of enhanced channel reports comprises determining at least one common feedback criterion based on said desired amount of enhanced channel reports and at least one reported channel quality indicator. See paragraphs 64 to 65 and 61.

16. EP also discloses all the steps and elements of dependent claims 56 and 62, including wherein determining at least one common feedback criterion based on said desired amount of enhanced channel reports and at least one reported channel quality indicator comprises determining at least one common feedback criterion based on said desired amount of enhanced channel reports and a plurality of reported channel quality indicators. See paragraphs 64 to 65 and 2 to 6.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

19. Claims 2, 5-6, 11-12, 22, 26-27, 38-39, 44-45, 50-51, 54, 60, and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP in view of WO 00/70897 (WO).

EP teaches all the steps/elements of claims 2 and 22, except wherein providing an enhanced channel report comprises providing an enhanced channel report that is a superset of said basic channel report. However, WO teaches event-based reporting by a mobile terminal based on a specific triggering measurement event or other information sent from a control node. See page 5, lines 1 to 21 and page 6, lines 5 to 12. Such specific qualitative and/or quantitative measured parameters may be, for example, signal strength, signal power, interference level, signal-to-interference ratio and so on. See *Id.* Therefore, one of ordinary skill in the art at the time the invention was made would have understood that the enhanced channel report would have had various configurations, including adding additional information regarding different control/condition parameters as taught by WO because this would give the base

station/radio node additional information to use in determining whether to perform a given operation. See page 6, lines 5 to 12.

The rejection of claims 2 and 22 are hereby incorporated. EP in view of WO teaches all the steps and elements of claims 5, 44, and 50, including wherein said at least one common feedback criterion comprises a throughput level threshold. See WO page 12, lines 12 to 16, traffic volume.

The rejections of claim 2, 5, 22, 44 and 50 are hereby incorporated. EP in view of WO teaches all the steps and elements of claims 6, 45, and 51, including wherein said at least one common feedback criterion comprises at least one range. See WO page 14, lines 12 to 26.

The rejections of claim 2, 5-6, 22, 44-45 and 50-51 are hereby incorporated. EP in view of WO teaches all the steps and elements of claims 11-12, 26-27, and 38-39, including wherein said basic channel report comprises information related to a first set of one or more channel parameters of said downlink channel, and wherein said enhanced channel report comprises information related to a second set (or a first set of channel parameters and information related to a second set) of one or more channel parameters of said downlink channel different from said first set of channel parameters. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use various configurations of the enhanced channel report in order to give the base station/radio node various information to use in determining whether to perform a given operation. See WO, page 6, lines 5 to 12.

The rejections of claim 2, 5-6, 11-12, 22, 26-27, 38-39, 44-45 and 50-51 are hereby incorporated. EP in view of WO teaches all the steps and elements of claims 54, 60, and 65, including wherein determining at least one common feedback criterion based on a desired amount of enhanced channel reports comprises determining at least one common feedback criterion based on said desired amount of enhanced channel reports (EP, paragraphs 64 to 65) and a data throughput rate (WO page 12, lines 12 to 16, traffic volume).

20. Claims 15-20, 29-34, 57, 63, and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP in view of U.S. Patent Application Publication 2005/0159110 to Gaal et al.

EP teaches all the steps and elements of claims 15 and 29, except providing an implicit indication of the presence of said enhanced channel report when said enhanced channel report is provided. However, Gaal teaches a method of generating two subchannels to carry CQI information to the base station. See paragraphs 41 and 44 to 48. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made would understand that one way of transmitting the enhanced CQI data would have been via a main channel and subchannels as taught by Gaal, because this manner of information exchange allows the base station to quickly reschedule transmission due to sudden changes in the channel environment (paragraph 40) which would qualify as a form of implicit indication. See paragraph 40.

The rejection of claims 15 and 29 are hereby incorporated. EP in view of Gaal teaches all the steps and elements of claims 16 and 30, including wherein providing an

Art Unit: 2688

implicit of the presence of said enhanced channel report comprises employing a different spreading factor to indicate the presence of said enhanced channel report.

See Gaal, paragraph 46.

The rejections of claims 15-16 and 29-30 are hereby incorporated. EP in view of Gaal teaches all the steps and elements of claims 17 and 31, including wherein providing an implicit of the presence of said enhanced channel report comprises selectively employing a different pilot pattern to indicate the presence of said enhanced channel report. See Gaal, paragraphs 46-47 and 67 to 68.

The rejections of claims 15-17 and 29-31 are hereby incorporated. EP in view of Gaal teaches all the steps and elements of claims 18-19 and 32-33, including wherein providing a basic channel report comprises providing a basic channel report over a first logical channel; and wherein selectively providing an enhanced channel report regarding said downlink channel comprises selectively providing an enhanced channel report over said first logical channel (EP, paragraph 62) (or over at least a second logical channel) (Gaal, paragraphs 41 to 48). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use various configurations for reporting of the enhanced channel report because these various types of exchanging channel reports on various logical channels allows the base station to quickly reschedule transmission due to sudden changes in the channel environment. See Gaal, paragraph 40.

The rejections of claims 15-19 and 29-33 are hereby incorporated. EP in view of Gaal teaches all the steps and elements of claims 20 and 34, including wherein

Art Unit: 2688

selectively providing an enhanced channel report over at least a second logical channel comprises selectively providing an enhanced channel report over said first logical channel and said second logical channel. See Gaal, paragraphs 41 to 48.

The rejections of claims 15-20 and 29-34 are hereby incorporated. EP in view of Gaal teaches all the steps and elements of claims 57, 63, and 67, including wherein determining at least one common feedback criterion based on a desired amount of enhanced channel reports comprises determining at least one common feedback criterion based on said desired amount of enhanced channel reports (EP, paragraphs 64 to 65) and an amount of data queued at said base station for transmission to a plurality of said plurality of mobile terminals (Gaal, paragraph 9).

Conclusion

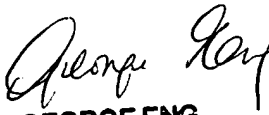
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie E. Stein, Esq. whose telephone number is (571) 272-7897. The examiner can normally be reached on M-F (8:30 am-5:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on (571) 272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2688

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JES


GEORGE ENG
PRIMARY EXAMINER